

data on the information recording medium is related to an arrival time of the unit and stored to the information recording medium.

2. (Amended) The information recording medium according to claim 1, wherein the first object and the second object are recorded separately on the information recording medium to different object files.

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3. (Amended) A recording apparatus for recording a digital stream having packet-multiplexed digital data to a recording medium, the recording medium being capable of storing first time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to a playback time of the packet-multiplexed digital data and stored, and second time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to an arrival time of the unit and stored, said recording apparatus comprising:

an I/F section being operable to receive the digital stream;

a map creation section being operable to create time map information according to the received digital stream; and

a recording section being operable to record the received digital stream and the time map information to the recording medium,

wherein said map creation section analyzes the received digital stream, and based on the analysis of the received digital stream creates the first time map information as the time map information when the playback time can be identified, or creates the second time map information as the time map information when the playback time cannot be identified.

4. (Amended) A recording method of recording a digital stream having packet-multiplexed digital data to a recording medium, the recording medium being capable of storing first time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to a playback time of the

packet-multiplexed digital data and stored, and second time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to an arrival time of the unit and stored, said recording method comprising:

analyzing the digital stream for recording the digital stream to the recording medium;

creating time map information, wherein the time map information is the first time map information when the playback time can be identified, or the second time map information when the playback time cannot be identified, based on said analyzing of the digital stream; and

recording the digital stream and the time map information to the recording medium.

5. (Amended) A reproducing apparatus for reproducing information from a recording medium storing a digital stream having packet-multiplexed digital data, the recording medium being capable of storing first time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to a playback time of the packet-multiplexed digital data and stored, and second time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to an arrival time of the unit and stored, said reproducing apparatus comprising:

a reproducing section being operable to read and reproduce the digital stream from the recording medium;

an I/F section being operable to receive information to designate the digital stream to be reproduced and information to designate a start time of playback; and

a control section being operable to control said reproducing section,

wherein said control section controls said reproducing section so as to determine whether time map information of the digital stream is the first time map information or the second time map information, specify a read address with reference to the time map information by using a time axis according to a type of the time map information, and then start the playback from the specified read address.

6. (Amended) A reproducing method of reproducing information from a recording medium storing a digital stream having packet-multiplexed digital data, the recording medium being capable of storing first time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to a playback time of the packet-multiplexed digital data and stored, and second time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to an arrival time of the unit and stored, said reproducing method comprising:

reading and reproducing the digital stream from the recording medium;

receiving information to designate the digital stream to be reproduced and information to designate a start time of playback; and

controlling the playback,

wherein said controlling comprises determining whether time map information of the digital stream is the first time map information or the second time map information, specifying a read address with reference to the time map information by using a time axis according to a type of the time map information, and then starting the playback from the specified read address.

Please add new claims 11 and 12 as follows.

11. (New) A computer program embodied on a computer readable medium for use with a computer for recording a digital stream having packet-multiplexed digital data to a recording medium, the recording medium being capable of storing first time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to a playback time of the packet-multiplexed digital data and stored, and second time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to an arrival time of the unit and stored, said computer program comprising:

I/F section computer readable program code being operable to receive the digital stream;

map creation section computer readable program code being operable to create time map information according to the received digital stream; and

recording section computer readable program code being operable to record the received digital stream and the time map information to the recording medium,

wherein said map creation section computer readable program code analyzes the received digital stream, and based on the analysis of the received digital stream creates the first time map information as the time map information when the playback time can be identified, or creates the second time map information as the time map information when the playback time cannot be identified.

A² 12. (New) A computer program embodied on a computer readable medium for use with a computer for reproducing information from a recording medium storing a digital stream having packet-multiplexed digital data, the recording medium being capable of storing first time map information in which, for each predetermined unit of packet-multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to a playback time of the packet-multiplexed digital data and stored, and second time map information in which, for each predetermined unit of packet multiplexed digital data, an address of the packet-multiplexed digital data on the recording medium is related to an arrival time of the unit and stored, said computer program comprising:

reproducing section computer readable program code being operable to read and reproduce the digital stream from the recording medium;

I/F section computer readable program code being operable to receive information to designate the digital stream to be reproduced and information to designate a start time of playback;

control section computer readable program code being operable to control said reproducing section computer readable program code,

wherein said control section computer readable program code controls said reproducing section computer readable program code so as to determine whether time map information of the digital stream is the first time map information or the second time map information, specify a read address with reference to the time map information by using a time axis according to a type of the time map information, and then start the playback from the specified read address.
